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**SYNTHESIS, STRUCTURAL ELUCIDATION, AND IN VITRO
ANTIPROLIFERATIVE AND APOPTOTIC EFFECTS
OF A COBALT-CURCUMIN COMPLEX**

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Curcumin (Fig. 1) is the principal curcuminoid of turmeric, which is a member of the ginger family. Turmeric is the yellow-orange powder made from the ground root of a specially cultivated variety of *Curcuma* plant. It is one of the most versatile natural medicines and one of the most important medicines in the Indian and Chinese medical traditions. Curcumin is a diarylheptanoid that incorporates several functional groups. The aromatic ring systems, which are phenols, are connected by two α , β -unsaturated carbonyl groups. Recently, it has been reported to possess anti-inflammatory, antioxidation and antiviral activities. Now, attention has been focused on its antitumor activity. It was found to induce apoptosis of a wide variety of tumor cells including mice sarcoma S180 cells, human colon carcinoma HT-29 cells, human renal carcinoma 293 cells, human liver carcinoma HepG2 cells etc [1]. The success of cisplatin has triggered intensive work for discovery of new metal-based anticancer drugs [2]. In this study, we evaluated the anti-proliferative and apoptotic effects of cobalt complexes including curcumin against human cervix epithelial carcinoma (HeLa), cell line and using cisplatin as a comparative standard by MTT assay. Our results presented herein provide experimental evidence that Cobalt-Curcumin complex induce apoptosis in cancer cell lines. Our flow cytometry results confirm that, this complex showed a high population of apoptotic cell higher than cisplatin at the same concentration and could induce apoptosis of HeLa cancer cells.

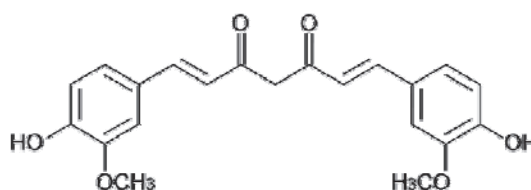


Fig. 1: the structure of Curcumin

References

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